

## CLAIMS:

1. A *Streptococcus pneumoniae* protein or polypeptide having a sequence selected from those shown in table 2.
- 5 2. A *Streptococcus pneumoniae* protein or polypeptide having a sequence selected from those shown in table 4.
- 10 3. A protein or polypeptide as claimed in claim 1 or claim 2 provided in substantially pure form.
4. A protein or polypeptide which is substantially identical to one defined in any one of claims 1 to 3.
- 15 5. A homologue or derivative of a protein or polypeptide as defined in any one of claims 1 to 4.
- 20 6. An antigenic and/or immunogenic fragment of a protein or polypeptide as defined in Tables 2-4.
7. A nucleic acid molecule comprising or consisting of a sequence which is:
  - 25 (i) any of the DNA sequences set out in Table 1 or their RNA equivalents;
  - (ii) a sequence which is complementary to any of the sequences of (i);
  - (iii) a sequence which codes for the same protein or polypeptide, as those sequences of (i) or (ii);

- (iv) a sequence which is substantially identical with any of those of (i), (ii) and (iii);
  - 5 (v) a sequence which codes for a homologue, derivative or fragment of a protein as defined in Table 1.
8. A nucleic acid molecule comprising or consisting of a sequence which is:
- 10 (i) any of the DNA sequences set out in Table 4 or their RNA equivalents;
  - (ii) a sequence which is complementary to any of the sequences of (i);
  - (iii) a sequence which codes for the same protein or polypeptide, as those  
15 sequences of (i) or (ii);
  - (iv) a sequence which is substantially identical with any of those of (i), (ii) and (iii);
  - 20 (v) a sequence which codes for a homologue, derivative or fragment of a protein as defined in Table 4.
9. The use of a protein or polypeptide having a sequence selected from those shown in Tables 2-4, or homologues, derivatives and/or fragments thereof, as an  
25 immunogen and/or antigen.
10. An immunogenic and/or antigenic composition comprising one or more proteins or polypeptides selected from those whose sequences are shown in Tables 2-

4, or homologues or derivatives thereof, and/or fragments of any of these.

11. An immunogenic and/or antigenic composition as claimed in claim 10 which is a vaccine or is for use in a diagnostic assay.

5

12. A vaccine as claimed in claim 11 which comprises one or more additional components selected from excipients, diluents, adjuvants or the like.

10

13. A vaccine composition comprising one or more nucleic acid sequences as defined in Tables 1, 3 or 4.

14. A method for the detection/diagnosis of *S.pneumoniae* which comprises the step of bringing into contact a sample to be tested with at least one protein or polypeptide as defined in Tables 2-4, or homologue, derivative or fragment thereof.

15

15. An antibody capable of binding to a protein or polypeptide as defined in Tables 2-4, or for a homologue, derivative or fragment thereof.

20

16. An antibody as defined in claim 15 which is a monoclonal antibody.

17. A method for the detection/diagnosis of *S.pneumoniae* which comprises the step of bringing into contact a sample to be tested and at least one antibody as defined in claim 15 or claim 16.

25

18. A method for the detection/diagnosis of *S.pneumoniae* which comprises the step of bringing into contact a sample to be tested with at least one nucleic acid sequence as defined in claim 7 or claim 8.

19. A method of determining whether a protein or polypeptide as defined in Tables 2-4 represents a potential anti-microbial target which comprises inactivating said protein or polypeptide and determining whether *S.pneumoniae* is still viable *in vitro* or *in vivo*.

5

20. The use of an agent capable of antagonising, inhibiting or otherwise interfering with the function or expression of a protein or polypeptide as defined in Tables 2-4 in the manufacture of a medicament for use in the treatment or prophylaxis of *S.pneumoniae* infection